SOLONENKO, V.P.

"Living" tectonics in the pleistoseist area of the Muya earthquake.
Izv. AN SSSR. Ser.Geol. 30 no.4:58-70 Ap '65. (MIRA 18:4)

1. Institut zemnoy kory Sibirskogo otdeleniya AN SSSR, Irkutsk.

PAVLOV, Oleg Viktorovich; VOLOGODSKIY, German Panteleymonovich; LESHCHIKOV, Fedor Nikolayevich; SOLONENKO, V.P., doktor geol.-min. nauk, otv. red.; PAL'SHIN, G.B., kand. geol.-min. nauk, otv. red.

[Engineering geology characteristics of the Angara industrial region and their significance for construction; fault tectonics, karst, and seasonal frost] Inzhenerno-geologicheskie osobennosti priangarskogo promyshlennogo raiona i ikh znachenie dlia stroitel'stva; raziryvnaia tektonika, karst i sezonnaia merzlota. Moskva, Nauka, 1965. 145 p. (MIRA 18:12)

SOLONETS, S. A.

Feeding and Feeding Stuffs

Using frozen winter rye greens as cattle feed. S. A. Solonets., Korm. baza, 2, no. 12, 1951.

9. Monthly List of Russian Accessions, Library of Congress, April 1952 [illegible] Uncl.

SOLONETS, V.K., sanitarnyy vrach

Scientific and Practical Conference dedicated to the 40th anniversary of the Gomel' Sanitary-Epidemiological Station. (MIRA 17:4)
Gig. i san. 28 no.6:100-102 Je'63

SOLONETSKIY, V.; BERDYSHEV, V., inzh.

About a brochure on irrigation. Gidr. i mel. 15 no.12:59-60 D '63. (MIRA 17:2)

1. Zaveduyushchiy otdelom agrotekhniki Donetskoy ovoshche-kartofel'noy stantsii (for Solonetskiy).

SOLONETSKIY, V. A.

Vegetable Gardening

Square nest method of planting vegetables; Sad. i og. no. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, May 1952, Uncl.

MARKELOV, Nikolay Viktorovich; ROMANTSOV, Yefrem Dmitriyevich; SEMENOV,
Petr Kuz'mich; SOLONEVICH, F.F., red.; GURVICH, F.G., red.izd-va;
FOMICHEV, P.M., tekhn.red.

[Fundamentals of auditing the managerial operations of cooperative society organizations] Osnovy revizii khoziaistvennoi deiatel'nosti organizatsii potrebitel'skoi kooperatsii. Izd.2., ispr. i dop. Moskva, Izd-vo TSentrosoiuza, 1959. 207 p. (MIRA 13:4)
(Cooperative societies--Auditing and inspection)

BORISOV, A.; SOLONEVICH, F. F

Simplify accounting of tare in the retail trade. Sov.torg. no.2:16-18 F '59. (MIRA 12:2)

(Retail trade) (Tare)

BELOUSOV, M.S., kand. ekon. nauk, dots.; VORONIN, M.G., kand. ekon. nauk; DUNDUKOV, G.S., kand. ekon. nauk, dots.; KAMYSHANOV, P.I., kand. ekon. nauk; KOLESOV, V.S.; KUPRIYENKO, A.N., kand. ekon. nauk; PEN'KOV, Ye.G., kand. ekon. nauk, dots.; SOLONEVICH, F.F. Prinimal uchastiye SMORODIN, M.B.; MUKHIN, N.A., retsenzent; FEDOTOV, G.N., retsenzent; STARCHAKOVA, I.I., red.; KIRAKOZOVA, N.Sh., red.; MEDRISH, D.M., tekhn. red.

[Accounting in commerce] Bukhgalterskii uchet v torgovle. [By] M.S.Belousov i dr. Moskva, Gostorgizdat, 1963. 528 p. (MIRA 17:1)

1. Prepodavateli kafedry bukhgalterskogo ucheta Moskovskogo instituta narodnogo khozyaystva im. G.V.Plekhanova(for Belousov, Voronin, Dundukov, Kamyshanov, Kolesov, Kupriyenko, Pen'kov, Solonevich). 2. Glavnyy bukhgalter Soyuza potrebitel'skikh obshchestv RSFSR (for Fedotov).

VODYANOY, A.; SOLONEVICH, F., F. predpodavatel'

Control over the preservation of merchandise in cold storage. Sov. torg. 36 no.3:32-33 Mr '63. (MIRA 16:3)

1. Glavnyy bukhgalter Kholodil'nika No.7 Myasorybtorga, Moskva.
(Cold storage warehouses)

SOLONEVICH, N. G.

Dissertation: "Ecological and Biological Characteristics of the Basic Components of the Grass-Bush Stage of Marsh Plant Associations." Cand Biol Sci, Inst of Botany imeni V. L. Komarov, Acad Sci USSR, Jan-Mar 54 (Vestnik Akademii Nauk, Moscow, Aug 54

SO: SUM 393 28 Feb 1955

SOLONEVICH, N.G.

A bioecological study of some bog grasses and small shrubs. Rast..
Krain.Ser.SSSR i ee osv. no.2:307-497 '56. (MIRA 10:3)
(Swamps) (Grasses) (Shrubs)

SOLONEVICH, N.G.

Ecological forms of Scotch pine (Pinus silvestris L.). Trudy Kar. fil. AN SSSR no.15:139-146 '59. (MIRA 12:10)
(Pine)

SOLONEVICH, N.G.

Vegetation cover and structure of the "Bor" swamp of the Shirinskoye swamp system. Trudy Bot. inst. Ser. 3 no. 12:211-228 '60. (MIRA 14:1)
(Leningrad Province--Swamps)

SOLONEVICH, N.G.

Root system of the Scotch pine Pinus sylvestris L.f. litwinowii
Sukacz. Probl. bot. 6:297-307 '62. (MIRA 16:5)
(Leningrad Province--Pine) (Roots (Botany))

SOLONEVICH, N.G.

Structure and productivity of some swamp plant communities.
Trudy Bot. inst. Ser. 3 no. 15:3-93 '63. (MIRA 17:5)

NORIN, B.N.; SOLONEVICH, N.G.; BOCH, M.S.; RAKHMANINA, A.T.;
KATENIN, A.Ye.

Tasks and basic trends of research at the Forest Tundra Station of the V.L. Komarov Botanical Institute of the Academy of Sciences of the U.S.S.R. Bot. zhur. 48 no.5: 773-777 My '63. (MIRA 17:1)

1. Botanicheskiy institut imeni V.L. Komarova AN SSSR, Leningrad.

SOLONEVICH, N.G.; BOCH, M.S.

International Peat Congress in Leningrad, August 15-23, 1963. Bot. zhur. 49 no.3:464-469 Mr '64. (MIRA 17:3)

1. Botanicheskiy institut imeni Komarova AN SSSR, Leningrad.

BOCH, M.S.; GO[illegible]HEVICH, N.S.

Conference on the problem "Modern ways and methods of swamp studies." Bot.zhur. 50 no.7:1031-1036 Jl '65.

(MIRA 18:11)

1. Botanicheskiy institut imeni Komarova AN SSSR, Leningrad.

YUDOVICH, V.G.; KHLEBORODOV, A.D.; SOLONEVICH, Ye.A.; VEYTS, V.I.;
PANOV, F.S.; BELYAYEV, A.N.; ALAD'IN, O.I.; OSIPOV, V.F.;
VOROB'YEV, A.I.; PROKOF'YEV, Yu.V.; SOLOV'YEV, Yu.A.;
KUZ'MIN, A.V.; ZHIDONIS, V.Yu.; ZOLIN, A.V.; YATSUK, Ye.I.;
DOBROSLAVSKIY, V.L.; TROFIMOV, Ye.N.; DRYAGIN, Ye.R.;
KOROLEV, V.F.; KERIMOV, N.B.; KRAVCHENKO, A.S.; RIVLIN, V.A.;
GURCHENKO, A.P.; KRUGLIKOV, T.F.; CHERNYAKOV, F.A.; ARKHIPOV,
N.K.

Authors' certificates and patents. Mashinostroenie no.1:[illegible]
103 Ja-F '65. (MIRA 18:4)

SOLONEVSKAYA, A.V.

Zooplankton of the Ob' River and the reservoir of the Novosibirsk Hydroelectric Power Station during the first year after its flooding. Trudy Biol. inst. Sib. otd. AN SSSR no.7:109-117 '61. (MIRA 15:3)
(OB' RIVER—ZOOPLANKTON)
(NOVOSIBIRSK RESERVOIR—ZOOPLANKTON)

SOLONEVSKAYA, A.V.

Algae in the Ob' River and Novosibirsk Reservoir. Izv.SO AN SSSR no. 8. Ser. biol.-med. nauk no.2:79-84 '63. (MIRA 16:11)

1. TSentral'nyy Sibirskiy botanicheskiy sad Sibirskogo otdeleniya AN SSSR, Novosibirsk.

*

SOLONEVSKAYA, A.V.

Dynamics of the seasonal development and the flow of phytoplankton in the upper reaches of the Ob' River, Kamen' - Dubrovino section. Trudy TSSBS no.8:69-81 '64.

Brief hydrobiological characteristics of the Siman group of lakes in the floodplain of the middle reaches of the Ob'. Ibid.:124-129
(MIRA 18:7)

SOLONEVSKAYA, A.V.

Discharge of phytoplankton of the upper Ob' River in 1963. Trudy TSSBS no.10:16-23 '65. (MIRA 18:10)

S/081/62/000/017/030/102
B162/B101

AUTHORS: Masłowska, Joanna, Sołoniewicz, Rajmund

TITLE: Detection of heavy metal cations on paper chromatograms with the application of reagents, replacing hydrogen sulfide

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 17, 1962, 122, abstract 17D16 (Chem. analit. (Polska), v. 6, no. 6, 1961, 949-958 [Pol.; summary in Ger.])

TEXT: In order to detect the cations of 1st, 2nd, 3rd analytical groups on the paper chromatograms, the application of thioacetamide, ammonium thiocarbamate, Na ethyl xanthogenate, Na_2CS_3, thiocarbamide and $Na_2S_2O_3$ is investigated. It is shown, that in a number of cases some of the listed reagents may be successfully used instead of H_2S. Since the process of precipitating heavy metals with thioacetamide and similar reagents is proceeding slowly, some difficulties may be experienced in the detection of cations of the 1st, 2nd and 3rd analytical groups on the paper chromatograms and results may be negative, in spite of the fact that in the

Card 1/2

Detection of heavy metal cations on... S/081/62/000/017/030/102
B162/B101

solutions these reactions take place without difficulty. When the chromatograms are heated with the object of accelerating these reactions with simultaneous formation of sulfides, their oxidation may also take place, which is facilitated by the large surface. This refers especially to PbS (the spot disappears). The most efficient reagents investigated are thioacetamide and Na_2CS_3, which form precipitates of sulfides on the chromatograms fairly quick. When ammonium thiocarbamate is used, the chromatograms must be preheated. Thiocarbamide, Na ethyl santhogenate and Na_2SO_3 give the worst results. The sensitivity of the reaction on the chromatograms is with thioacetamide and Na_2CS_3 approximately of the same order as with H_2S, and in a number of cases even a little higher (As^{3+}, Co^{2+} and Fe^{3+}). [Abstracter's note: Complete translation.]

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Card 2/2

S/081/62/000/023/008/120
B149/B186

AUTHORS: Józefowicz Edward, Sołoniewicz, Rajmund

TITLE: Investigations of hydrolysis of sulfur oxichlorides. I. Kinetics of sulfuryl chloride hydrolysis

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 23, 1962, 82, abstract 23B589 (Roczn. chem., v. 35, no. 5, 1961, 1391 - 1398 [Pol.; Summaries in Russ. and Eng.])

TEXT: Hydrolysis of SO_2Cl_2 was investigated in a system of water and SO_2Cl_2 solution in CCl_4, separated by a permanent interface. The reaction rate is approximately described by a linear equation. The dependence of the rate constant k on the acidity of the aqueous layer is represented by the empirical equation (25°C) $\log k = 0.22\,pH - 3.478$. The influence of temperature is expressed by the Arrhenius equation: $k = 1.02 \cdot 10^3 \exp(-8570/RT)$. A reaction mechanism is proposed with a limiting stage: (SO_2Cl_2) ads. $+ OH^- = SO_3Cl + H^+ + Cl^-$, occuring at

Carc

Card 1/2

SOLONIEWICZ, Rajmund

Amidosulfonic acid and its application in analytical chemistry.
Chem anal 7 no.4:713-719 '62.

1. Katedra Chemii Nieorganicznej, Politechnika, Lodz.

SOLONIEWICZ, Rajmund

Application of thiourea in the precipitation of sulfides of metals. II. Chem anal 7 no.5:965-968 '62.

1. Katedra Chemii Nieorganicznej, Politechnika, Lodz.

SOLONIEWICZ, R.

New reagent substituting hydrogen sulfide in cation analysis.
Wiad.chem 16 no.8:520 Ag '62.

SULIKOWSKA-CZAKIS, Maria dr; SOLONIEWICZ, Rajmund, dr inz.

Methods of dividing metals according to groups by chemical means. Pt. 2. Rudy i metale 8 no.2:68-72 F '63.

CZAKIS-SULIKOWSKA, Maria, dr.; SOLONIEWICZ, Rajmund, dr inz.

Methods of dividing metals according to groups by chemical means. Pt.1. Rudy i metale 8 no.1:6-11 Ja '63.

MASLOWSKA, Joanna; SOLONIEWICZ, Rajmund

Application of thioacetamide to the approximate determination of traces of heavy metals on paper chromatograms. Chemia Lodz no. 13: 27-32 '63.

1. Department of Inorganic Chemistry, Technical University, Lodz.

CZAKIS-SULIKOWSKA, Maria; SOLONIEWICZ, Rajmund

Crystalline complex compounds containing thiourea and thiocyanates. Pt. 1. Rocz chemii 37 no.11:1405-1410 '63.

1. Department of Inorganic Chemistry, Technical University, Lodz.

CZAKIS-SULIKOWSKA, Maria, dr; SOLONIEWICZ, Rajmund, dr

Analytical application of the precipitation reaction cf carbamidomercury cyanoferrate. Chem anal 9 no.1:59-64 '64.

1. Katedra Chemii Nieorganicznej, Politechnika, Lodz.

SOLONIEWICZ, Rajmund, dr inz.

Use of thiourea for the precipitation of metal sulfides. Pt.3.
Chem anal 9 no.2:393-395 '64.

1. Katedra Chemii Nieorganicznej, Politechnika, Lodz.

L 41818-66 EWP(t)/ETI IJP(c) JD/JG

ACC NR: AP6031690 (N) SOURCE CODE: PO/0099/66/040/003/0381/0390

37

B

AUTHOR: Soloniewicz, Rajmund

ORG: Department of Inorganic Chemistry, Polytechnic Institute, Lodz (Katedra Chemii Nieorganicznej Politechniki)

TITLE: Use of thiourea in precipitation of metal sulfides. VI. Reaction kinetics of potassium antimonite with thiourea

SOURCE: Roczniki chemii-annales societatis chimicae polonorum, v. 40, no. 3, 1966, 381-390

TOPIC TAGS: chemical precipitation, chemical reaction kinetics, sulfide, antimony compound, reaction rate

ABSTRACT: The kinetics of the reaction between potassium antimonite and thiourea resulting in the formation of thioantimonite was investigated. Overall reaction rate is determined by the step of antimony (III) attachment to the sulfur atom of thiourea. The author thanks Professor, Doctor E. Jozefowicz for his interest in this work and his valuable attention. Orig. art. has: 4 figures, 9 formulas and 3 tables. [Based on author's Eng. abst.] [JPRS: 36,002]

SUB CODE: 07 / SUBM DATE: 12Jun65 / ORIG REF: 006 / SOV REF: 001
OTH REF: 014

Card 1/1 af

0919 6290

SOLONIEWICZ, Roman

Diagnosis of tuberculosis by intracerebral injection of investigated material in white mice. Gruzlica 23 no.7:461-468 July '55.

1. Z Zakladu Mikrobiologii w Lodzi, Kierownik: prof.dr Z. Szymanowski i z Oddzialu Wewnetrznego Szpitala Powiatowego w Tarnobrzegu Dyrektor; dr H. Trojanowski. Ordynator: dr R. Soloniewicz, Rozalin, pow. Tarnobrzeg, blok 21 m 9.
(TUBERCULOSIS, diagnosis,
bacteriol. intracerebral inject. of investigated
material in white mice)

SOLONIKIN, P. S. (Professor, All-Union Institute of Experimental Veterinary Medicine)

"Measures for the control of infectious atrophic rhinitis of swine"

Veterinariya, vol. 39, no. 7, July 1962 pp. 30

SOLONNIKOV, V.A.; PETROVSKIY, I.G., akademik, otv. red.; NIKOL'SKIY,
S.M., prof., zamestitel' otv. red.; LADYZHENSKAYA O.A., red.

[Boundary value problems for linear parobolic systems of differential equations of the general type.] O Kraevykh zadachakh dlia lineinykh parabolicheskikh sistem differentsial'nykh uravnenii obshchego vida. Moskva, Naukka, 1965. 162 p. (Akademiia nauk SSSR. Matematicheskii institut. Trudy, vol.83)
(MIRA 18:11)

SOLONIN, A., SMIRNOV, S. AND MIKHAILOV, V.

Problema Vostochnoi sortirovochnoi stantsii. (The problem of the Eastern marshalling station). (Rekonstruktsiia transporta, 1932, no. 23-24, p. 43-46, sketch).
DLC: HE7.R4

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress, Reference Department, Washington, 1952, Unclassified.

SOLONIN A.

Zheleznodorozhnomu stroitel'stvu-polnotsennye proekty. [Valuable projects - for railroad construction]. (Zhel-dor. transport, 1947, no. 2, p. 56-62)/
DLC: HE7.Z5

SO: Soviet T ransportation and Communication, A Bibliography, Library of Congress, Reference Department, Washington, 1952, Unclassified.

SOLONIN, A.T., inzhener.

Improve the design of one-way classification yards. Vest.TSNII MPS no.3:40-42 N '56. (MLRA 10:1)
(Railroads--Hump yards)

SOLONIN, Andrey Timofeyevich, inzh.; GORDEYEV, P.A., red. izd-va; NAUMOVA, G.D., tekhn.red.

[Calculation of the performance of loading and unloading machinery, mechanisms and units in railroad planning and construction] Raschet proizvoditel'nosti pogruzochno-vygruzochnykh mashin, mekhanizmov i ustroistv pri proektrovanii i stroitel'stve zheleznodorozhnogo transporta. Moskva, Gos.izd-vo lit-ry po stroit., arkhit.i stroit.materialam, 1960. 94 p. (MIRA 14:4)

(Railroad engineering) (Loading and unloading)

YEFIMOV, I.T.; MISHCHENKO, G.Ye.; SOLONIN, A.T., inzh.

Reconstruction of Moscow's railroad system. Gor.khoz.Mosk. 36
no.4:21-24 Ap '62. (MIRA 15:8)

1. Nachal'nik otdela sooruzheniy transporta i svyazi Gosstroya SSSR (for Yefimov). 2. Zamestitel' nachal'nika otdela planirovki i zastroyki gorodov Gosstroya SSSR (for Mishchenko).
(Moscow--Railroads)

SKUMBIN, M.K.; SOLONININ,A.V.;SHNEYDER, T.M.; RYASHKO, B.V.; GAVRYUSHIN, N.M.;
KHARLANOVICH, I.V.

Complex technology for train and freight operations in a division.
Zhel. dor. transp. 46 no.8:14-21 Ag '64. (MIRA 17:11)

1. Nachal'nik Permskogo otdeleniya Sverdlovskoy dorogi (for Skumbin). 2. Zamestitel' nachal'nika Permskogo otdeleniya Sverdlovskoy dorogi (for Soloninin). 3. Glavnyy inzh. Permskogo otdeleniya Sverdlovskoy dorogi (for Shneyder). 4. Nachal'nik otdela dvizheniya Permskogo otdeleniya Sverdlovskoy dorogi (for Ryashko). 5. Zamestiteli nachal'nika otdela dvizheniya Permskogo otdeleniya Sverdlovskoy dorogi (for Gavryushin, Kharlanovich).

SOLONIN, I.S., redaktor; SHABASHOV, S.P., kandidat tekhnicheskikh nauk, redaktor; DUGINA, N.A., tekhnicheskiy redaktor.

[Mechanical metalworking] Mekhanicheskaia obrabotka metallov. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry. No.2. 1952. 166 p.; No.5. 1954. 138 p. (MLRA 8:9)
(Metalworking machinery)

SOLONIN, I.S., kandidat tekhnicheskikh nauk, dotsent.

Statistical investigation of precision and finish of cast-iron and steel surfaces machined by hard-alloy reamers. Trudy Ural. politekh.inst. no.50:5-54 '56. (MLRA 9:11)
(Reamers)

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KUVSHINSKIY, V.V., kandidat tekhnicheskikh nauk; SEREBRENNIK, Yu.B., kandidat tekhnicheskikh nauk; SOLONIN, I.S., kandidat tekhnicheskikh nauk; SHARIN, Yu.S., kandidat tekhnicheskikh nauk.

Surface formation and force relationships in large-feed semifinish grinding. Trudy Ural.politekh.inst. no.63:21-36 '56. (MLRA 10:2)

(Surfaces (Technology)) (Grinding and polishing)

PHASE I BOOK EXPLOITATION SOV/4498

Solonin, Ivan Sergeyevich

Matematicheskaya statistika v tekhnologii mashinostroyeniya (Mathematical Statistics in the Manufacturing Processes of Machine Building) Moscow, Mashgiz, 1960. 174 p. Errata slip inserted. 5,000 copies printed.

Ed.: A.A. Spiridonov, Docent, Candidate of Technical Sciences; Managing Ed. (Ural-Siberian Department, Mashgiz): L.A. Kon'shina, Engineer; Tech. Ed.: N.A. Dugina.

PURPOSE: This book is intended for engineering and technical personnel at machine-building plants and may also serve as a textbook on mathematical statistics in mechanical engineering for students in the special field of "Manufacturing Processes in Machine Building."

COVERAGE: The book contains brief information on the theory of mathematical statistics and describes methods for practical application of mathematical statistics to manufacturing processes in machine building. The author considers the use of statistical methods for setting up machine tools, for prevention of rejects in production, for analyses of manufacturing processes in machine building, and for exact calculations of such processes. The book is written in a popular style. No personalities are mentioned. There are 12 references, all Soviet.

Card 1/4

SPIRIDONOV, A.A., dotsent, kand. tekhn. nauk; SOLONIN, I.S., dotsent, kand. tekhn. nauk

Statistical investigations of the roughness and precision of cold-hardened surfaces. Trudy Ural. politekh. inst. no.112: 5-22 '61. (MIRA 16:7)

(Surface hardening)

L 46661-66 EWP(e)/EWT(m)/EWP(t)/ETI/EWP(k) IJP(c) JD

ACC NR: AP6009570 (N) SOURCE CODE: UR/0226/65/000/011/0015/0018

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56
B

AUTHOR: Solonin, S. M.; Solonin, M. D.

ORG: Institute for the Study of Materials, AN UkrSSR (Institut problem materialovedeniya AN UkrSSR); Kiev Reductor Plant (Kiyevskiy reduktornyy zavod)

TITLE: Molding pressure as a function of the ratio of the area of pressing to the area of the friction of powder against die walls

SOURCE: Poroshkovaya metallurgiya, no. 11, 1965, 15-18

TOPIC TAGS: stainless steel, iron, powder metal, pressure effect, metal pressing, die / Kh23N18 Cr-Ni steel, Kh17N2 Cr-Ni steel, APZhK iron

ABSTRACT: This investigation deals with the comparative pressing of high-porosity briquets of reduced powders of Kh23N18 and Kh17N2 stainless steels and APZhK iron in molds of 10 and 100 mm diameters. All briquets were pressed to the same height (7-10 mm) and porosity. Findings: for the larger mold (100 mm diameter) the required pressure is smaller than for the smaller mold (10 mm diameter). This is because the losses due to the friction of powder against the die walls are smaller in the larger mold, given the same porosity of briquets. As a

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ACC NR: AP6009570

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rule, then, the difference in required pressures increases with the difference in mold diameters. (If, however, the porosity of the briquets differs, this rule no longer holds true.) On this basis, the authors derive a formula for predicting the required pressure in a large-diameter mold if the required pressure in a small-diameter (e.g. 10 mm) mold is known a priori for the same material and porosity of the briquet:

$$N = N_0 \cdot \frac{S_{pr}}{S^0_{pr}} \cdot \frac{\left(1 - k \cdot \frac{S^0_{fr}}{S^0_{pr}}\right)}{\left(1 - k \cdot \frac{S_{fr}}{S_{pr}}\right)}. \qquad (1)$$

where N is the molding pressure, S^0_{pr} is the surface area of pressing for the small-diameter mold; S_{pr} is the surface area of pressing for the large-diameter mold; S^0_{fr} is the surface area of pressing for the small-diameter mold; S_{fr} is the surface area of pressing for the large-diameter mold; and k is the produkt of the coefficient of the friction of powder against die walls and the coefficient of side pressure. This formula was found to be in satisfactory agreement with experimental findings. "The author is indebted to Cand. Techn. Sci. R. A. Andriyevskiy and Cand. Techn. Sci. V. I. Skorokhod for valuable advice in carrying out this project." Orig. art. has: 1 table, 3 formulas

SUB CODE: 11, 13, 12/ SUBM DATE: 10May65/ ORIG REF: 006/ OTH REF: 001

Card 2/2

ANDRIYEVSKIY, R.A.; SOLONIN, S.M.

Calculating isobaric potentials of reactions occurring during the sintering of alloyed steel in HCl and HF media. Porosh. met. 2 no.4:94-99 Jl-Ag '62. (MIRA 15:8)

1. Institut metallokeramiki i spetsial'nykh splavov AN UkrSSR.
(Powder metallurgy)

ANDRIYEVSKIY, R.A. (Kiyev); KALIKHMAN, V.L. (Kiyev); SOLONIN, S.M. (Kiyev)

Effect of sintering temperatures on the shrinkage, properties and the structure of briquets made of chromium-nickel steel powders. Izv. AN SSSR. Otd. tekh. nauk. Met. i gor. delo no.2:104-111 Mr-Ap '63. (MIRA 16:10)

L 57727-65 EWP(e)/EWT(m)/EWA(d)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c) Pf-4
MJW/JD/HW
ACCESSION NR: AR5015170 UR/0137/65/000/005/0038/0038
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SOURCE: Ref. zh. Metallurgiya, Abs. 5G228

AUTHOR: Fedorchenko, I. M.; Pugin, V. S.; Solonin, S. M.

TITLE: High porosity metalloceramic materials for cleaning air and aggressive gases

CITED SOURCE: Tr. 7 Vses. nauchno-tekhn. konferentsii po poroshk. metallurgii. Yerevan, 1964, 167-171

TOPIC TAGS: filter material, powder metal, stainless steel, metal ceramic material, air filter, gas filter, furnace gas, porous metal

TRANSLATION: Technology has been developed for the manufacture, on an extrusion press, of large dimension tubular filters made of non-spherical powders of stainless steels Kh17N2, Kh30, Kh23N18, 1Kh18N9T, and 0Kh18N9, produced by the calcium hydride method. Food grade starch and waste products from the pulp and paper industry were used as plasticizers. The greatest amount of shrinkage in sintering is exhibited by steels of the ferrite type, and the cleanest surface in finished articles was obtained by sintering in very dry hydrogen in a charge containing 5% titanium hydride. Hardening after sintering and homogenizing

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L 57727-65
ACCESSION NR: AR5015170

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strengthen metalloceramic steels. Tubes were made of Kh17N2 steel powder, with a diameter of 100 mm, a length of up to 0.5 m, a wall thickness of 4-6 mm, and a porosity of 70%; these tubes were for cleaning blast furnace gas. Sintering of the tubes was done in purified hydrogen at 1200-1250° for 2-2.5 hrs, with an intermediate holding period of 1 hr at 600-800° for elimination of the plasticizer. The sintered products had sigma$_b$ equal to 5-10 kg/mm^2, sigma$_b$ equal to 0.5-1.5 kg/mm^2. /Translator's note: Two sigma$_b$ in original./ The pores are uniformly distributed over the whole length of the tube, while the outer layers of the tube have a higher density than the middle layers. Such a pore distribution increases the efficiency of cleaning without lowering the penetrability of the filter. V. Kvin.

SUB CODE: MM ENCL: 00

Card 2/2

L 57519-65 EWP(e)/EWT(m)/EWP(w)/EPF(c)/EWA(d)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/
Pf-4 IJP(c) MJW/JD/HW/WB

ACCESSION NR: AR5013020

UR/0137/65/000/004/I055/I055
669.15.018.85:621.762:621.78

30
49
B

SOURCE: Ref. zh. Metallurgiya, Abs. 4I346

AUTHOR: Solonin, S. M.; Globa, L. V.

TITLE: Investigation of the effect of heat treatment on the properties of a porous stainless steel

CITED SOURCE: Tr. 7 Vses. nauchno-tekhn. konferentsii po poroshk. metallurgii. Yerevan, 1964, 200-206

TOPIC TAGS: powder metallurgy, stainless steel, metal corrosion, metal mechanical property

TRANSLATION: Investigations were conducted with specimens made of sintered reduced
powders of Kh17N8, Kh30, 0Kh18N9, and Kh23N18 with a porosity of 15, 25, 35, and
45%. Accelerated cooling of ferritic-martensitic Kh17N2 steel and ferritic Kh30
steel with additional heat treatment results in a considerable increase in the
strength and corrosion resistance as compared with the industrial method for treat-

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L 57519-65

1

ACCESSION NR: AR5013020

ing these steels (slow cooling in a muffle after sintering). Accelerated cooling of these steels from the sintering temperature also considerably increases strength and corrosion resistance. It is established that there is a considerable hardening of OKh18N9 and Kh23N18 porous powder metal austenitic steels after homogenization as compared with cast steels which soften after similar treatment. Accelerated cooling of OKh18N9 and Kh23N18 austenitic steels from the sintering temperature considerably increases their strength and corrosion resistance as compared with slow cooling in a muffle after sintering.

SUB CODE: MM ENCL: 00

ACCESSION NR: AP4040470 S/0226/64/000/003/0032/0039

AUTHOR: Andriyevskiy, R. A.; Solonin, S. M.

TITLE: Sintering of chromium-nickel-steel powders

SOURCE: Poroshkovaya metallurgiya, no. 3 (21), 1964, 32-39

TOPIC TAGS: stainless steel powder, powder sintering, powder phase composition, powder property, powder composition, sintered stainless steel

ABSTRACT: The sintering of powders of stainless steels Kh30 (AISI-446), Kh17N2 (AISI-431), Kh23N18 (AISI-310), 1Kh18N9T (AISI-321), and 0Kh18N9 (AISI-304), obtained by the reduction of chromium and nickel oxides, has been studied. Ferritic steel powders are more easily sintered than austenitic steel powders because of the presence of oxides on the surface of particles of austenitic steel powders. Kh30 and 1Kh18N9T steel powders are homogeneous in the initial condition, whereas 0X18N9 and Kh23N18 steel powders are heterogeneous. All these steels are homogeneous in the sintered condition. Shrinkage and strength increases with increasing temperature, particularly in

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ACCESSION NR: AP4040470

Kh17N2 and Kh30 steels. The strength of sintered 1Kh18N9T steel is considerably lower than that of other steels. In austenitic steels the amount of austenite sharply increases after sintering; in ferrite steels the amount of ferrite increases by 20—30%. Sintering can be activated by the addition of halides, titanium hydride, copper, boron, silver, or phosphorus. The addition of titanium hydride was found to be most effective because it increases shrinkage and strength and makes it possible to use hydrogen of lower purity. Orig. art. has: 4 figures and 3 tables.

ASSOCIATION: Institut problem materialovedeniya AN UkrSSR (Institute of Problems of Material Science, AN UkrSSR)

SUBMITTED: 15Apr63 DATE ACQ: 06Jul64 ENCL: 00

SUB CODE: MM NO REF SOV: 007 OTHER: 007

ATD PRESS: 3043

Card 2/2

L 15736-65 EWP(e)/EWT(m)/EWA(d)/EWP(v)/EWP(t)/EWP(k)/EWP(b) Pf-4 MJW/JD/HM/
ACCESSION NR: AP4044915 HW/WB S/0226/64/000/004/0091/0096

AUTHOR: Kakhovskiy, N. I.; Ponizovtsev, A. M.; Andriyevskiy, R. A.; Solonin, S. M.

TITLE: Welding 18 of porous 18 high-alloy Kh17N2 18 steel

SOURCE: Poroshkovaya metallurgiya, no. 4, 1964, 91-96

B

TOPIC TAGS: stainless Kh17N2 steel, sintered Kh17N2 steel, sintered stainless steel welding, weld metal property, weld metal corrosion 18 resistance 18

ABSTRACT: Plates, 40 x 60 x 3 mm, and bushings, 50--70 mm in diameter with a porosity varying from 30 to 60%, made by the powder-metallurgy method from Kh17N2 stainless steel powder 18 (0.1% C, 16.9% Cr, 2% Ni, 0.15% Ni), were TIG welded with or without filler wire, or CO_2 welded with a consumable electrode. TIG welding without filler wire produced sound welds in steel with a porosity up to 30%. The optimum conditions for welding 5-mm thick metal were: electrode

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L 15736-65
ACCESSION NR: AP4044915

diameter, 1.0--1.2 mm; current, 70--80a; voltage, 8--9v; welding speed, 18--22 m/hr. For thinner metal the current should be lower. Filler wire should be used in welding metal with a higher porosity. In both argon-arc and consumable-electrode CO_2 welding of porous, high-alloy austenitic and martensitic steels, austenitic standard filler wire Sv-08Kh20N9G7T, Sv-08Kh20N10G6, Sv-10Kh20N15, or Sv-06Kh18N9T produce weld metal with satisfactory microstructure, mechanical properties, corrosion resistance, and ductility. In consumable-electrode CO_2 welding, the electrode diameter should be 0.6--0.7 mm max. Annealing in dry hydrogen at 1200C for 1 hr and subsequent normalization improve corrosion resistance of metal in the heat-affected zone. The annealing, however, decreases the microhardness of the weld metal from 170 to 75--90 dan/mm^2 and that of the parent metal from 100--180 to 75--120 dan/mm^2. A somewhat higher porosity was observed in the fusion zone, although in the annealed metal it appeared to be uniform. Orig. art. has: 5 figures and 1 table.

Card 2/3

L 15736-65
ACCESSION NR: AP4044915

2

ASSOCIATION: Institut Elektrosvarki im. Ye. O. Patona AN UkrSSR (Electrowelding Institute AN UkrSSR); Institut problem materialovedeniya AN UkrSSR (Institute of the Science of Materials AN UkrSSR)

SUBMITTED: 17Apr63 ENCL: 00

SUB CODE: MM, IE NO REF SOV: 002 OTHER: 002

Card 3/3

L 32675-65 EWT(e)/EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(k)/EWP(b) Pf-4 MJW/JD/WB

ACCESSION NR: AP5004436 S/0226/65/000/001/0013/0019

44
41

AUTHOR: Solonin, S.M.; Globa, L.V.

TITLE: Influence of heat treatment on the properties of porous stainless steel

B

SOURCE: Poroshkovaya metallurgiya, no. 1, 1965, 13-19

TOPIC TAGS: stainless steel, powder metallurgy, reduced stainless steel, porous stainless steel, steel heat treatment, steel structure, steel strength, steel corrosion, phase magnetometer/steel Kh17N2, steel Kh30, steel OKh18N9, steel Kh23N18

ABSTRACT: The study was carried out on specimens of reduced powders of steels Kh17N2, Kh30, OKh18N9, and Kh23N18 having porosities of 15, 25, 35, and 45%. In order to determine the effect of heat treatment on the structure of stainless steels, the authors performed a phase magnetometric analysis using Steinberg's magnetometer. The properties of the specimens (strength and corrosion resistance) following heat treatment were compared with those of furnace-cooled specimens after sintering. Rapid cooling of the ferritic-martensitic steel Kh17N2 and ferritic steel Kh30 after sintering and supplementary heat treatment were found to improve these properties substantially. In contrast to cast stainless steels, the sintered austenitic steels OKh18N9 and Kh23N18 harden considerably after homogenizing. When they are cooled rapidly from the

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L 32675-65

ACCESSION NR: AP5004436

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sintering temperature, their strength and corrosion resistance are markedly raised as compared to specimens cooled slowly with the muffle furnace after sintering. "The reduced stainless steel powders were prepared at the Novo-Tul'skiy zavod (Novo-Tula plant) by a technique developed at TsNIICherMet." Orig. art. has: 8 figures.

ASSOCIATION: Institut problem materialovedeniya AN UkrSSR (Materials Science Institute, AN UkrSSR)

SUBMITTED: 12Dec63 ENCL: 00 SUB CODE: MM

NO REF SOV: 007 OTHER: 000

Card 2/2

L 4[illegible]-66 EWP(e)/EWT(m)/EWP(t)/ETI/EWP(k) IJP(c) JD

ACC NR: AP6009570 (N) SOURCE CODE: UR/0226/65/000/011/0015/0018

58
56
B

AUTHOR: Solonin, S. M.; Solonin, M. D.

ORG: Institute for the Study of Materials, AN UkrSSR (Institut problem materialovedeniya AN UkrSSR); Kiev Reductor Plant (Kiyevskiy reduktornyy zavod)

TITLE: Molding pressure as a function of the ratio of the area of pressing to the area of the friction of powder against die walls

SOURCE: Poroshkovaya metallurgiya, no. 11, 1965, 15-18

TOPIC TAGS: stainless steel, iron, powder metal, pressure effect, metal pressing, die / Kh23N18 Cr-Ni steel, Kh17N2 Cr-Ni steel, APZhK iron

ABSTRACT: This investigation deals with the comparative pressing of high-porosity briquets of reduced powders of Kh23N18 and Kh17N2 stainless steels and APZhK iron in molds of 10 and 100 mm diameters. All briquets were pressed to the same height (7-10 mm) and porosity. Findings: for the larger mold (100 mm diameter) the required pressure is smaller than for the smaller mold (10 mm diameter). This is because the losses due to the friction of powder against the die walls are smaller in the larger mold, given the same porosity of briquets. As a

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L 45067-66

ACC NR: AP6009570

2

rule, then, the difference in required pressures increases with the difference in mold diameters. (If, however, the porosity of the briquets differs, this rule no longer holds true.) On this basis, the authors derive a formula for predicting the required pressure in a large-diameter mold if the required pressure in a small-diameter (e.g. 10 mm) mold is known a priori for the same material and porosity of the briquet:

$$N = N_0 \cdot \frac{S_{pr}}{S^0_{pr}} \cdot \frac{\left(1 - k \cdot \frac{S^0_{fr}}{S^0_{pr}}\right)}{\left(1 - k \cdot \frac{S_{fr}}{S_{pr}}\right)} . \qquad (1)$$

where N is the molding pressure, S^0_{pr} is the surface area of pressing for the small-diameter mold; S_{pr} is the surface area of pressing for the large-diameter mold; S^0_{fr} is the surface area of pressing for the small-diameter mold; S_{fr} is the surface area of pressing for the large-diameter mold; and k is the produkt of the coefficient of the friction of powder against die walls and the coefficient of side pressure. This formula was found to be in satisfactory agreement with experimental findings. "The author is indebted to Cand. Techn. Sci. R. A. Andriyevskiy and Cand. Techn. Sci. V. I. Skorokhod for valuable advice in carrying out this project." Orig. art. has: 1 table, 3 formulas

SUB CODE: 11, 13, 12/ SUBM DATE: 10May65/ ORIG REF: 006/ OTH REF: 001

Card 2/2

L 46663-66 EWP(e)/EWT(m)/EWP(w)/T/EWP(t)/ETI/EWP(k) IJP(c) JD/WW/JG

ACC NR: AP6009572 (N) SOURCE CODE: UR/0226/65/000/011/0026/0031

AUTHOR: Fedorchenko, I. M.; Solonin, S. M. 46 42 B

ORG: Institute for the Study of Materials, AN UkrSSR (Institut problem materialovedeniya AN UkrSSR)

TITLE: Study of the sinterability of chromium 27 powder 18

SOURCE: Poroshkovaya metallurgiya, no. 11, 1966, 26-31

TOPIC TAGS: powder metal sintering, chromium, porous metal, porosity, brittleness

ABSTRACT: The article deals with an investigation of the possibility of fabricating highly porous Cr products (in particular, for use in filters) at lower sintering temperatures. The Cr powder used was produced by the technology described by B. A. Borok et al. (Polucheniye i primeneniye poroshka khroma dlya izgotovleniya metallokeramicheskikh izdeliy, TsITEIN, vyp. 5, 1961). Its chemical composition: 99.5% Cr, 0.05% C, 0.05% N_2, 0.2% Fe, 0.03% Si. The particles were at most ~8 μ in size, and their shape was dendritic. This type of powder is relatively nonporous, and poorly pressed and sintered unless a binder is used. The addition of 4 wt.% paraffin as a binder assured the production of satisfactory briquets with the porosity of 50-55%. Sample briquets with and without the addition of paraffin and with various porosities were sintered at 1373, 1423 and 1473°K for 0.25, 0.5, 1 and 2 hr. in hydrogen with a dew point

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ACC NR: AP6009572

16 4

of -20°C. After sintering the shrinkage and electric resistance of the specimens were determined. Findings: pure Cr as well as Cr with paraffin display satisfactory sinterability at 1373-1473°K. Highly porous Cr-paraffin briquets may be sintered at 1473°K for 1 hr with the object of reducing shrinkage, provided that they are heated quickly to this temperature; if they are heated slowly, the shrinkage increases instead of decreasing. The same may be said of electric resistance. All the specimens, however, proved to be very brittle (impact strength ≤ 0.03 kg-m/cm^2), owing to their high content of interstitial impurities -- N_2 and C. Thus, further work in this direction should be oriented toward developing more plastic Cr-base powdermetal compounds. Orig. art. has: 4 figures.

SUB CODE: 11, 13/ SUBM DATE: 01Mar65/ ORIG REF: 006

Card 2/2 egr

ACC NR: AP6025935

SOURCE CODE: UR/0226/66/000/007/0032/0037

AUTHOR: Gatushkin, A. A.; Solonin, S. N.

47 B

ORG: Kiev Institute of Civil Aircraft Engineering, IPM AN UkrSSR (Kiyevskiy institut inzhenerov grazhdanskoy aviatsii, IPM AN UkrSSP)

TITLE: Investigation of filtering properties of sintered two-layer filters H

SOURCE: Poroshkovaya metallurgiya, no. 7, 1966, 32-37

TOPIC TAGS: filtration, filter, sintered filter, industrial ~~two-layer~~ filter, h~~ydraulic fluid filter;~~ aircraft, hydraulic system

ABSTRACT: Strict requirements relative to the purity of hydraulic fluid used in aircraft hydraulic systems has promoted the development of new filter materials which can be used at 210—523K and can filter out particles larger than 4—5 μ. In this connection the filtration properties of sintered two-layer filters were investigated. Filters 50 mm in diameter and 5 mm thick consisting of two layers (1 mm and 4 mm thick) were compacted from nonspherical Kh17N2 steel powder and sintered at 1473K in a hydrogen atmosphere for 2 hr. The particle size in the 1-mm-thick layer was 40 μ, and in the 4-mm-thick layer it was 280 + 150 μ. The porosity of both layers was about 50%. The filters were tested with AMG-10 oil under a pressure of 5.5 Mn/m^2. The sintered two-layer filters were found to have better permeability and filtering ability than one-layer filters made from powder of uniform grain size. The two-layer

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ACC NR: AP6025935

0

filters have a longer service life if the coarse-grained layer faces the flow of the liquid. However, the cleaning of the clogged filters is much easier if the fine-grained side faces the flame during operation. The ultrasonic cleaning of such filters was found to be very effective, while cleaning by the use of a reverse air blow was much less effective. With the same filtering ability, the two-layer filters have a considerably longer service life (up to clogging) than do filters made of powder with uniform grain size. Orig. art. has: 3 figures and 3 formulas. [WW]

SUB CODE: 01, 13, ~~[illegible]~~ SUBM DATE: 29Oct65/ ORIG REF: 002/ OTH REF: 002/
ATD PRESS: 5051

Card 2/2

50-1-6/26

AUTHOR: Solonin, S. V.

TITLE: On the Use of Extrapolation Formulae for the Forecast of the Displacement of Barometric Centers (K voprosu o primenenii ekstrapolyatsionnykh formul dlya prognoza peremeshcheniya baricheskikh tsentrov).

PERIODICAL: Meteorologiya i Gidrologiya 1958, Nr 1, pp. 30-32 (USSR)

ABSTRACT: In the article by S. S. Klyucharev an approximate formula for the forecast of the position of the barometric centers for 24 hours is recommended.

$$u = -l \frac{b_1 - b_2}{0,5\,(p_1 + p_2) - p_o} \qquad (1)$$

u is the velocity of displacement of the point p_o (in 100 km/day); l (in 100 km) - the distance between the centers of the pressure - drop and rise, which are connected with the given barometric formation; b_1 and b_2, p_1 and p_2 are the barometric tendencies and the pressure respectively. The relation (1) which was obtained by modification of the extrapolation formula by S. Petersen (reference 4) by Klyucharev's opinion is supposed to yield better results as compared to

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On the Use of Extrapolation Formulae for the Forecast of the Displacement of Barometric Centers. 5C-1-6/26

method (reference 2). An examination of the process (reference 3) on the basis of the synoptic data for the period from September 1954 to January 1956 was performed. In 88 cases of the synoptic charts examined they sufficiently met the requirements of Klyucharev's. Besides a random test of the method with the aid of current data, with formation of the forecast, was carried out. On that occasion the results were compared with the method by L. S. Gandin (reference 2). The results of examination are given in tables 1 and 2. The relation of the average absolute value of the vector-difference between the calculated and actual velocities to the average absolutevalue of the actual velocities

$\frac{|\Delta \vec{v}|}{\bar{v}}$ for the method (reference 3) yielded 47% and for the process (reference 2) - 38%. The analysis of the synoptic charts confirms the known statement (reference 5), which follows from the relation between the velocity field and the pressure fields as well as the barometric tendency, that the velocity of the displacement of the barometric center depends on the curvature of the barometric profile and on the

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quantity of the tendency gradient. In this connection the dependence on the curvature of the barometric profile manifests itself more (as this quantity changes within wider limits) than the dependence on the quantity of the gradient tendency. The barometric centers with a steep profile move slowly. In contrast to them the "flat" barometric centers which are accompanied by the isallobar-gradients of the same quantities move more rapidly. The influence of the curvature of the barometric profile essentially also shows in the direction of the displacement of the barometric centers. The velocity of the barometric center is not directed at the isallobar-gradient, but lies between the isallobar-gradient and the major axis. The more extended the isobar is the closer to the major axis the center shifts. The centers with very extended isobars usually are displaced at the longest axis of the ellipse. It is therefore better to employ the method (reference 2) for the forecast of the position of the barometric centers after 24 hours. Formula (1) can only be recommended for the velocity evaluation of the motion of centers, but the direction of the displacement is precisely to define according

On the Use of Extrapolation Formulae for the Forecast of the Displacement of Barometric Centers. 50-1-6/26

to some other method. For this purposes the rule by V. I. Bushuk (reference 1) can be used. Finally it is to be said that the accuracy of the methods (references 2 and 3) somewhat increases with increasing velocity of displacement of the barometric centers. There are 3 tables. and 5 references, 3 of which are Slavic.

AVAILABLE: Library of Congress

1. **Weather forecasting-Mathematical analysis**

Card 4/4

SOV/169-59-6-6168

Translation from: Referativnyy zhurnal, Geofizika, 1959, Nr 6, p 111 (USSR)

AUTHORS: Bauman, I.A., Solonin, S.V.

TITLE: On the Use of Extrapolation Formulae for the Forecast of Cyclone Shifts

PERIODICAL: Tr. Leningr. gidrometeorol. in-ta, 1958, Nr 8, pp 34 - 38

ABSTRACT: The verification of the Petersen extrapolation formulas, modified by Gandin, showed their clear advantage over other methods in forecasting direction and shift velocity of cyclones. The verification was performed for 106 cyclones, observed during the period from September 1954 to January 1956. The ratio of the mean vector difference between the calculated and effective velocities in relation to the mean value of the effective velocities amounts to 39%. The mean deviation of the forecast directions from the real directions amounts to 16°; in 47% of all cases this deviation did not exceed 10°. The results of the

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SOV/169-59-6-6168

On the Use of Extrapolation Formulae for the Forecast of Cyclone Shifts

verification showed that the limitations for the selection of cases are very great when using the present method. For this reason, merely 106 cyclones were found for which this method could be used. Bibl. 6 titles.

L.V. Klimenko

VB

Card 2/2

SOV/169-59-5-5198

33000

Translation from: Referativnyy zhurnal, Geofizika, 1959, Nr 5, p 121 (USSR)

AUTHOR: Solonin, S.V.

TITLE: On the Problem of Navigation Phenomena in Connection With Jet Flows

PERIODICAL: Tr. Leningr. gidrometeorol. in-ta, 1958, Nr 8, pp 51 - 55

ABSTRACT: The author reports on a method for calculating the airplane heading with minimum of time based on the BT map. The equation is obtained

$$\frac{d\gamma}{dt} = -K\left[\sin^2(\alpha-\gamma)\frac{\partial^2 H}{\partial x^2} + \cos^2(\alpha-\gamma)\frac{\partial^2 H}{\partial y^2} - \sin 2(\alpha-\gamma)\frac{\partial^2 H}{\partial x\cdot\partial y}\right].$$

This equation connects the variation of course (γ) with the variation of geopotential of the barometric surface (H) for the flight along the trajectory of minimum time. Together with the equation of motion of aircraft this equation determines the

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SOV/169-59-5-5198

On the Problem of Navigation Phenomena in Connection With Jet Flows

trajectory sought for: $K = 1/lV^2$ where l is the Coriolis parameter, V is the air speed of aircraft, α is the track angle of airline. In practice of meteorologic air-traffic control, the prognostic ET maps can be used assuming the field of pressure to be stationary. Bibl., 10 titles.

V.A. Shtal'

Card 2/2

S/169/62/000/009/089/120
D228/D307

3010

AUTHORS: German, M. A., Mazurin, N. I. and Solonin, S. V.

TITLE: Question of flight conditions in cirri

PERIODICAL: Referativnyy zhurnal. Geofizika, no. 9, 1962, 70, abstract 9B426 (Tr. Leningr. gidrometeorol. in-ta, no. 12, 1961, 163-167)

TEXT: Ananylsis of the data of exploratory flights by TY-104 (TU-104) aircraft in July - August 1958 and August - September 1960 over the USSR's European part, East Siberia, and the Far East -- and also of routine flights on the air routes Leningrad-Moscow, Leningrad-Kiyv, and Leningrad-Sverdlovsk -- showed that, when the middle or lower layer is cloudy, cirri have a greater vertical extent than if clouds are absent. When the middle or lower layer is cloudy, the average vertical extent of cirri comprises 2700 m on a warm, 2300 m on a cold, and 2600 m on an occluded front; if there are no lower or middle clouds, it comprises 2500, 1200, and 2100 m respectively. The mean vertical extent of frontal cirri depends on

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Question of flight ...

S/169/62/000/009/089/120
D228/D307

the latitude. On a warm front it increases from 1600 m at 40 - 50°N to 3300 m at 51 - 55°N and then decreases to 1800 m at 61 - 65°N. On a cold front in the same latitudes the average vertical extent of cirri comprises 1400, 2200, and 1400 m respectively. The average bump frequency in clouds amounts to 72%. In different forms of cirri, including those of jet streams, the overloads vary from 0.01 to 0.60 g in the warm season. The maximum overload frequency falls on the gradation 0.01 - 0.10 g. Overloads of from 0.2 to 0.6 g are recorded in the cirri of jet streams. In cirro-strati bumping is most intensive at the upper and lower boundaries. The bump layer's average thickness in the upper layer's clouds comprises 200 - 600 m, the maximum being 1500 m. The mean values of turbulence factors in different forms of cirri are given, as is the relation between the characteristic scale of turbulent movements and the difference of the humid-adiabatic and vertical temperature gradients; it testifies to the fact that the dimension of the elements of turbulence grows as the instability of atmospheric stratification increases. 4 references. /Abstracter's note: Complete translation./

X

Card 2/2

NAROVLYANSKIY, G.Ya.; SOLONIN, S.V.

Equivalent winds and their calculation. Trudy NIIAK no.14:120-129 '61. (MIRA 15:1)

1. Leningradskaya Krasnoznamennaya voyenno-vozdushnaya inzhenernaya akademiya im. A.F.Mozhayskogo.
(Winds) (Meteorology in aeronautics)

SOLONIN, S. V.

PHASE I BOOK EXPLOITATION SOV/6279

Narovlyanskiy, Grigoriy Yakovlevich, and Sergey Vasil'yevich Solonin

Ekvivalentnyy veter i metody yego rascheta (Equivalent Wind and Methods of Its Calculation) Leningrad, Gidrometeoizdat, 1962. 98 p. Errata slip inserted. 1250 copies printed.

Resp. Ed.: L. T. Matveyev; Ed.: G. Ya. R[illegible]akov[illegible]; Tech. Ed.: M. I. Braynina.

PURPOSE: The book is intended mainly for meteorologists serving aviation, for aeronautical engineers, and for navigators. It can also be used by instructors and graduate students of hydrometeorological institutes and civil aviation schools.

COVERAGE: The increase in the range of flight and the aircraft ceiling makes it necessary to enlarge the application of meteorological data in navigational calculations. Therefore, the volume of meteorological information necessary for flight security has expanded

Card 1/~~1~~ 2

L 54535-65 EWT(1)/FCC GW

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13
B

ACCESSION NR: AR5014440

SOURCE: Ref. zh. Geofizika, Abs. 5B406

AUTHOR: Solonin, S.V.; Mal'tseva, A.A.; Ruzhilo, V.S.

TITLE: Investigation of ageostrophic wind divergence on the basis of experimental data

CITED SOURCE: Tr. Leningr. gidrometeorol. in-ta, vyp. 19, 1964, 101-111

TOPIC TAGS: wind divergence, ageostrophic wind divergence, geostrophic wind, weather bal

TRANSLATION: This paper presents the results of an estimation of ageostrophic wind divergence obtained from data collected on balloon flights. These data were used to compute accelerations and then the formulas $u' = -\frac{1}{l}\frac{dv_p}{dt}$, $v' = \frac{1}{l}\frac{du_p}{dt}$ (where $l = 2\omega \sin \varphi$ is Coriolis force, u_p, v_p are the components of wind velocity at the isobaric surface) were used to determine the values of the ageostrophic components. The study was based on data from regular launchings of constant-level balloons at the 300- and 250-mb levels. A total of 82 flights with an average duration of 92 hours were analyzed. The time interval used in the computations was 6 hours. In this case the

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ACCESSION NR: AR5014440

working formulas have the form: $u' = -0{,}062 \frac{\Delta v}{\sin\varphi}$, $v' = 0{,}062 \frac{\Delta u}{\sin\varphi}$,

where u', v' are the ageostrophic wind components in m/sec, and Δu, Δv are the wind velocity changes in km/hour. Analysis of the computations shows that positive and negative divergence of the geostrophic wind from the true wind is equally probable. The mean values of such divergence, taking into account the sign for negative values of $\bar{u}'$ and $\bar{v}'$, were $\bar{u}' = 10.3$ m/sec, $\bar{v}' = 8.9$ m/sec; in the case of positive values — $\bar{u}' = 9$ m/sec and $\bar{v}' = 7.8$ m/sec, respectively. The mean square divergence was $\sigma_{u'} = 8.1$ m/sec, $\sigma_{v'} = 6.7$ m/sec. In all the analyzed cases the mean relative ageostrophic divergence decreased with an increase in wind velocity. It is shown that the wind distribution conforms to the normal law of distribution of random values. This makes possible a theoretical estimation of the probability of different values and gradations of ageostrophic wind divergence on the basis of the Gauss formula and the Laplace function. V. Bayev.

SUB CODE: ES ENCL: 00

Card [illegible]/2

L 62475-65 EWT(1)/FCC GW

ACCESSION NR: AT5019695 UR/2667/64/000/025/0124/0130

AUTHOR: Solonin, S. V.

55

B+1

TITLE: The applicability of the normal circular law of random quantity distribution in the calculation of flight-condition and navigational-meteorologic characteristics of wind

SOURCE: Moscow. Nauchno-issledovatel'skiy institut aeroklimatologii. Trudy, no. 25, 1964. Voprosy aviatsionnoy klimatologii (Problems in aviation climatology), 124-130

TOPIC TAGS: circular distribution law, meteorological wind characteristic, wind velocity distribution, wind property, navigation characteristic

12,55

ABSTRACT: Numerous researchers have investigated the applicability of the normal law of random quantity distribution to problems of wind statistics (see, e.g., C.E.P. Brook, C.S. Durst, et al., Meteor. off. Geoph. Memoirs, no. 85, 1950; I. G. Guterman, Tr. NIIAK, no. 14, 1961; A.S. Marchenko, Ibid., no. 16, 1962). However, the processing and analysis of wind probing data show that the wind vector is a two-dimensional quantity which obeys the law of normal elliptical distribution. However, since the treatment of ellipticity introduces consider-

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ACCESSION NR: AT5019695

able difficulties into the calculations, the author discusses approaches which consider the meridional and zonal wind vectra components as independent and applies to them the circular distribution law. This view is then supported by actual evaluations of the correlation factors between those two wind components. The article concludes by an estimate of errors in case of the omission of ellipticity effects. Orig. art. has: 12 formulas and 5 tables.

ASSOCIATION: Nauchno-issledovatel'skiy institut aeroklimatologii, Moscow (Scientific-Research Institute of Aeroclimatology)

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SUBMITTED: 00 NR REF SOV: 005 OTHER: 004

SUB CODE: AC, ES ENCL: 00

Card 2/2

L 43638-65 EPA/EPF(c)/EPR/EPA(s)-2/EWA(c)/EWT(m)/T Pr-4/Ps-4/Pt-7 WW/JW/WE

S/0096/65/000/003/0068/0070

ACCESSION NR: AP5006300

43
42
B

AUTHOR: Khvostov, V. I. (Candidate of technical sciences); Solonin, V. I. (Engineer, Dissertator)

TITLE: Determining combustion characteristics by the gas analysis method

17

SOURCE: Teploenergetika, no. 3, 1965, 68-70

TOPIC TAGS: fuel combustion, gas analysis, partial combustion, carburetor

ABSTRACT: A method is proposed for calculating the elementary composition of the carburetted and non-carburetted portion of a fuel druing combustion from gas analysis data. The products of partial combustion are divided into chemical (H_2, CO, CH_4) and mechanical (vapor and drops of fuel, hydrocarbons heavier than methane). Formulas are derived for calculating heat losses with mechanical and chemical partial combustion according to the data of gas analysis with regard to fuel distillation during combustion. Fuel distillation during combustion is evaluated with regard to its effect on the accuracy of calculating the total losses with heavy hydrocarbons, vapors and fuel drops. It is experimentally shown that it is possible to eliminate distillation during the combustion of a light liquid fuel in a fuel-injection chamber. Orig. art. has: 2 figures, 18 formulas.

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L 43638-65

ACCESSION NR: AP5006300

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ASSOCIATION: MVTU

SUBMITTED: Mar65

ENCL: 00

SUB CODE: FP

NO REF SOV: 005

OTHER: 000

Card 2/2 *ntb*

L 52713-65 EPA/EWT(m)/EPF(c)/EWP(f)/EPF(n)-2/EPR/T/EPA(bb)-2/EWA(c) Paa-4/
Pr-4/Ps-4/Pt-7 WW/JW/WE

ACCESSION NR: AP5011775 UR/0096/65/000/005/0077/0081
621.43.056.001.5

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54
B

AUTHOR: Khvostov, V. I. (Candidate of technical sciences); Solomin, V. I. (Engineer)

TITLE: Test stand study of a forced jet combustion chamber for liquid fuel

SOURCE: Teploenergetika, no. 5, 1965, 77-81

TOPIC TAGS: combustion, combustion chamber, liquid fuel, turbine combustion chamber, gas turbine

ABSTRACT: An experimental study was made on the design of a compact, high-performance combustion chamber fueled with heavy diesel or fuel oil. The model chamber ([illegible] mm in diameter) was equipped with gasification and afterburning zones of different lengths. Primary air was injected at two points into the gasification zone so that the atomized fuel carried by one air stream mixed with a vortex of the other primary air stream. Different amounts of primary and secondary air were used to study the effects of the primary-to-secondary air ratio and the overall equivalence ratio on the completeness of combustion in three different cross sections.

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ACCESSION NR: AP5011775

The aerodynamic resistance of the chamber at different fuel consumption rates was also measured. As a result, recommendations for the design of full-scale chambers with a fuel consumption of 2,600—6,000 kg/hr were made. Orig. art. has: 8 figures. [PV]

ASSOCIATION: MVTU imeni Baumana

SUBMITTED: 00 ENCL: 00 SUB CODE: PR, FP

NO REF SOV: 005 OTHER: 000 ATD PRESS: 4012

Card 2/2

EBERT, L.Ya.; BUKHARIN, O.V.; YAKOVLEVA, Z.M.; SOLONINA, I.I.

Experimental studies on ecmoline in association with some vitamins of the B complex. Antibiotiki 9 no.7:641-645 Jl '64. (MIRA 18:3)

1. Kafedra mikrobiologii Chelyabinskogo meditsinskogo instituta.

KHANIN, Sh.G.; SOLONINA, K.I.

Fifty years of the Smolensk Pasteur Station. Zhur.mikrobiol., epid. i immun. 33 no.4:138-141 Ap '62. (MIRA 15:10)

1. Iz Smolenskogo meditsinskogo instituta i Smolenskoy oblastnoy sanitarno-epidemiologicheskoy stantsii.
(SMOLENSK--RABIES)

KOPYLOVSKAYA, G.Ya.; NIKOLAYEV, A.A.; AFONINA, A.V.; DYRENKOVA, M.Ya.;
SOLONINA, M.L.

Productivity of two-line "hybrid" hens in inbreeding. Trudy Inst.
gen. no.28:336-345 '61. (MIRA 14:11)
(POULTRY BREEDING)

GINTOVT, V.Ye.; SOLONINA, M.L.; SHANDOR, Kh.; LEBEDEV, B.I.;
SVIRINA, Z.A.

Making use of heterosis in raising chicks for meat. Trudy Inst. gen. no.29:290-294 '62. (MIRA 16:7)

(Poultry breeding) (Heterosis)

KUSHNER, Kh.F.; KOPYLOVSKAYA, G.Ya.; NOVIK, I.Ye.; SOLONINA, M.L.

Artificial fertilization of hens and turkeys. Trudy Inst. gen. no.29:305-331 '62. (MIRA 16:7)

(Artificial insemination)
(Poultry breeding)

KOPYLOVSKAYA, G.Iu.; SOLOMINA, M.L.; LEBEDEV, B.I.; SVIRINA, Z.A.

Effectiveness of the utilization of the Cornish chicken breed for the production of broilers. Trudy Inst. gen. no.31:289-301 '64. (MIRA 17:9)

SOLONINA, M.L.; KOPYLOVSKAYA, G.Ya.

Biological and constitutional characteristics of broilers and their significance in their selection as to the meat yield. Trudy Inst. gen. no.33:72-82 '65.

(MIRA 18:12)